

IFW

Practitioner's Docket No. 2639/A97 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Coorman, et al

Application No.: 10/724,659

Group No.: 2171

Filed: 12/01/03

For: Speech Synthesis Using Concatenation of Speech Waveforms

Mail Stop Amendment
Commissioner for Patents
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WITHIN THREE MONTHS OF FILING OR
BEFORE MAILING OF FIRST OFFICE ACTION (37 C.F.R. § 1.97(b))

IDENTIFICATION OF TIME OF FILING THE ACCOMPANYING
INFORMATION DISCLOSURE STATEMENT

The information disclosure statement submitted herewith is being filed within three months of the filing date of the application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last. 37 C.F.R. § 1.97(b).

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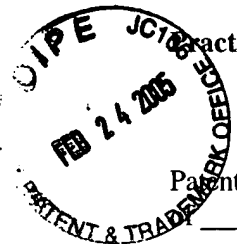
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02639/00A97 365532.1



Practitioner's Docket No. 2639/A97 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent application

Inventor(s)

for

Title of invention

the specification of which is being transmitted herewith

OR

In re application of: Coorman, et al

Application No.: 10/724,659

Group No.: 2171

Filed: 12/01/03

Examiner:

For: Speech Synthesis Using Concatenation of Speech Waveforms

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

(Information Disclosure Statement--page 1 of 10)

CERTIFICATION UNDER 37 C.F.R. SECTIONS 1.8(a) and 1.10*

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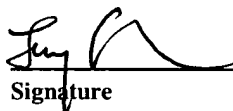
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"Since the filing of correspondence under section 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable C.F.R.e, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

INFORMATION DISCLOSURE STATEMENT

NOTE: "An information disclosure statement shall be considered by the Office if filed by the applicant:

- (1) Within three months of the filing date of a national application;
- (2) Within three months of the date of entry of the national stage as set forth in section 1.491 in an international application; or
- (3) Before the mailing date of a first Office action on the merits, whichever event occurs last." 37 C.F.R. section 1.97(b).

NOTE: "Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section." 37 C.F.R. section 1.56(a).

"Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) each inventor named in the application;
- (2) each attorney or agent who prepares or prosecutes the application; and
- (3) every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application." 37 C.F.R. section 1.56(c).

NOTE: The "duty as described in section 1.56 will be met so long as the information in question was cited by the Office or submitted to the Office in the manner prescribed by sections 1.97(b) - (d) and 1.98 before issuance of the patent." Notice of January 9, 1992, 1135 O.G. 13-25 at 17.

WARNING: "No information disclosure statement may be filed in a provisional application." 37 C.F.R. section 1.51(b).

List of Sections Forming Part of This Information Disclosure Statement

The following sections are being submitted for this Information Disclosure Statement:

(check sections forming a part of this statement: disC.F.R.d unused sections and number pages consecutively)

1. ☒ Preliminary Statements
2. ☒ Forms PTO/SB/08A and 08B (substitute for Form PTO-1449)
3. ☐ Statement as to Information Not Found in Patents or Publications
4. ☒ Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted
5. ☐ Cumulative Patents or Publications
6. ☒ Copies of Listed Information Items Accompanying This Statement
7. ☐ Concise Explanation of Non-English Language Listed Information Items
 - 7A. ☐ JEPO Search Report
 - 7B. ☐ English Language Version of EPO Search Report
8. ☐ Translation(s) of Non-English Language Documents
9. ☐ Concise Explanation of English Language Listed Information Items (Optional)
10. ☒ Identification of Person(s) Making This Information Disclosure Statement

(complete the following, if appropriate)

Sections _____, respectively, have been continued on ADDED PAGE(S).

NOTE : "Once the minimum requirements are met, the examiner has an obligation to consider the information." Notice of April 20, 1992 (1138 O.G. 37-41, 37).

Section 1. Preliminary statements

Applicants submit herewith patents, publications or other information, of which they are aware that they believe may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. section 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

SECTION 2. FORMS PTO/SB/08A and 08B (formerly Form PTO-1449)**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Coorman, et al Attorney Docket: 2639/A97
Serial No: 10/724,659 Art Group Unit: 2171
Date Filed: 12/01/03 Examiner Name:
Invention: Speech Synthesis Using Concatenation of Speech Waveforms

**LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

U.S. PATENT DOCUMENTS					
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor	Class/Subclass
	AA	US 5,978,764	11/1999	Lowry, et al	704/258
	AB	US 5,920,840	7/1999	Satyamurti, et al	704/267
	AC	US 5,913,193	6/1999	Juang, et al	704/258
	AD	US 5,774,854	6/1998	Sharman	704/260
	AE	US 5,749,064	5/1998	Pawate, et al	704/213
	AF	US 5,630,013	5/1997	Suzuki, et al	395/2.25
	AG	US 5,611,002	3/1997	Vogten, et al	395/2.76
	AH	US 5,490,234	2/1996	Narayan	395/2.69
	AI	US 5,479,564	12/1995	Vogten, et al	395/2.76
	AJ	US 5,384,893	1/1995	Hutchins	704/246
	AK	US 10/1992	10/1992	Kandefer, et al	704/2567

OTHER DOCUMENTS			
Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	AL	Black, Alan W, et al,	"CHATR: a genetic speech synthesis system", In Proceedings of COLING, 94 Kyoto, Japan
	AM	Campbell, Nick,	"Processing a Speech Corpus for Synthesis with Chatr", ICSP '97 (International Conference on Speech Processing), Seoul, Korea 1997/8/26
	AN	Banga, Eduardo R., et al,	"Shape-Invariant Pitch-Synchronous Text-to-Speech Conversion", Proceedings of the International Conference on Acoustics, Speech, and Signal Processing (ICASSP), IEEE, 1995, pp. 656-659

Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	AO	Black, Alan W., et al.	"Automatically Clustering Similar Units for Unit Selection in Speech Synthesis", Proceedings of Eurospeech 97, Sep. 1997, pp. 601-604, Rhodes, Greece
	AP	Black, Alan W., et al	"Optimising Selection of Units from Speech Databases for Concatenative Synthesis", European Conference on Speech Communication and Technology, Madrid, Sep. 1995, pp. 581-584
	AQ	Campbell, Nick, et al	"Chatr: A Natural Speech Re-Sequencing Synthesis System"
	AR	Charpentier, F. J., et al	"Diphone Synthesis Using an Overlap-Add Technique for Speech Waveforms Concatenation", IEEE, 1986, pp. 2015-2018
	AS	Conkie, Alistair D.	"Optimal Coupling of Diphones", in J.P.H. van Santen, et al , editors, Progress in Speech Synthesis, Springer verlag, 1997, pp. 293-304.
	AT	Ding, Wen, et al	"Optimising Unit Selection with Voice Source and Formats in the Chatr Speech Synthesis System", Proceedings of Eurospeech 97, Sep. 1997, pp. 537-540, Rhodes, Greece.
	AU	Dutoit, T.,	"High Quality Test-to-Speech Synthesis: A Comparison of Four Candidate Algorithms", IEEE, 1994, pp. I-565-I-568.
	AV	Edgington, M.,	"Investigating the Limitations of Concatenative Synthesis", Eurospeech, 1997, pp. 1-4.
	AW	Edgington, M., et al,	"Overview of Current Text-to-Speech Techniques: Part II--Prosody and Speech Generation", BT Technology Journal, vol. 14, No. 1, Jan., 1996, pp. 84-99.
	AX	Hamdy, Khaled N., et al	"Time-Scale Modification of Audio Signals with Combined Harmonic and Wavelet Representations", Proceedings of ICASSP 97, pp. 439-442, Munich, Germany.
	AY	Hauptmann, Alexander G.	"Speakez: A First Experiment in Concatenation Synthesis from a Large Corpus", Proceedings of Eurospeech93, Sep. 1993, pp. 1701-1705, Berlin, Germany.
	AZ	Hess, Wolfgang J.	"Speech Synthesis--A Solved Problem?", Signal Processing, Elsevier Science Publishers B.V., 1992.
	BA	Hirokawa, Tomohisa, et al,	"High Quality Speech Synthesis System Based on Waveform Concatenation of Phoneme Segment", IEICE Trans. Fundamentals, vol. E76-A, No. 11, Nov. 1993, pp. 1964-1970.

Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	BB	Huang, X., et al	"Recent Improvements on Microsoft's Trainable Text-to-Speech System--Whistler", Proceedings of ICASSP '97, Apr. 1997, pp. 959-962, Munich, Germany.
	BC	Hunt, Andrew J., et al	"Unit Selection in a Concatenative Speech Synthesis System Using a Large Speech Database", IEEE International Conference on Acoustics, Speech and Signal Processing Conference Proceedings, May 1996, vol. 1, pp. 373-376.
	BD	Iwahashi, Naoto, et al	"Concatenative Speech Synthesis by Minimum Distortion Criteria", IEEE, 1992, pp. II-65-II-68.
	BE	Iwahashi, Naoto, et al	"Speech Segment Network Approach for Optimization of Synthesis Unit Set", Computer Speech and Language, 1995, pp. 335-352.
	BF	King, Simon, et al	"Speech Synthesis Using Non-Uniform Units in the Verbmobil Project", Proceedings of Eurospeech '97, Europress, 97, Sep. 1997, pp. 569-572, Rhodes, Greece
	BG	Klatt, Dennis H.,	"Review of Text-to Speech Conversion for English", Journal of Acoustic Society of America, 82 (3) Sep., 1987, pp. 737-793
	BH	Lee, Sungjoo, et al	"Variable Time-Scale Modification of Speech Using Transient Information", Proceedings of ICASSP '97, Apr. 1997, pp. 1319-1322, Munich, Germany.
	BI	Lin, Gang-Janp, et al	"High Quality of Low Complexity Pitch Modification of Acoustic Signals", IEEE, 1995, pp. 2987-2990.
	BJ	Kraft, Volker,	"Does the Resulting Speech Quality Improvement Make a Sophisticated Concatenation of Time-Domain Synthesis Units Worthwhile?", Proc. 2.sup.nd ESCA/IEEE Workshop on Speech Synthesis, 1994, pp. 65-68.
	BK	Laroche, Jean, et al,	"HNS: Speech Modification Based on a Harmonic + Noise Model", IEEE, 1993, pp. II-550-II-553.
	BL	Moulines, E., et al,	"A Real-Time French Text-to-Speech System Generating High-Quality Synthetic Speech", International Conference on Acoustics, Speech & Signal Processing, ICASSP, IEEE, 1990, vol. 15, pp. 309-312.

Examiner Initials	Reference Number	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	BM	Nakajima, Shin'ya,	"Automatic Synthesis Unit Generation for English Speech Synthesis Based on Multi-Layered Context Oriented Clustering", Speech Communication, vol. 14, 1994, pp. 313-324.
	BN	Portele, Thomas, et al,	"A Mixed Inventory Structure for German Concatenative Synthesis", Progress in Speech Synthesis, J.P.H. van Santen, et al, editors, Springer verlag, 1997, pp. 263-277.
	BO	Quartieri, T.F., et al	"Time-Scale Modification of Complex Acoustic Signals", IEEE, 1993, pp. I-213-216.
	BP	Rudnicky, Alexander, I., et al,	"Survey of Current Speech Technology", Communication of the ACM, vol. 37, No. 3, Mar., 1994, pp. 52-57.
	BQ	Sagisaka, Yoshinori,	"Speech Synthesis by Rule Using an Optimal Selection of Non-Uniform Synthesis Units", IEEE, 1998, pp. 679-682.
	BR	Saito, Takashi, et al, "	High-Quality Speech Synthesis Using Context-Dependent Syllabic Units", Proceedings of ICASSP '96, May 1996, pp. 381-384, Atlanta, Georgia.
	BS	Verhelst, Werner, et al,	"An Overlap-Add Technique Based on Waveform Similarity (WSOLA) for High Quality Time-Scale Modificaiton of Speech", IEEE, 1993, pp. II-554-II-557.
	BT	Yim, S., et al,	"Computationally Efficient Algorithm for Time Scale Modification GLS-TSM", Proceedings of ICASSP '96, May 1996, pp. 1009-1012, Atlanta, Georgia.

Examiner Signature: _____

Date Considered: _____

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation *if not* in conformance and not considered. Include copy of this form with next communication to applicant.

Section 4. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

NOTE: *"A copy of any patent, publication or other information listed in an information disclosure statement is not required to be provided if it was previously cited by or submitted to the Office in a prior application, provided that the prior application is properly identified in the statement and relied upon for an earlier filing date under 35 U.S.C. 120." 37 C.F.R. section 1.98(d).*

WARNING: *"This exception to the requirement for copies of information does not apply to information which was cited in an international application under the Patent Cooperation Treaty." Notice of April 20, 1992 (1138 O.G. 37-41, 38).*

WARNING: *"Information which is cited or submitted to the Office in the parent application of a file wrapper continuing application under 37 C.F.R. section 1.62 will be part of the file before the examiner and need not be resubmitted in the continuing application. Likewise, the examiner will consider information cited or submitted to the Office in a parent application when examining a continuing application and thus this information need not be resubmitted unless applicant desires the information to be printed on the patent." Notice of April 20, 1992 (1138 O.G. 37-41, 37).*

WARNING: *While a copy of a non-English language item of information need not be submitted, if it was previously submitted to, or cited by, the Office in a prior application, provided it is properly identified in this statement and this application relies on that earlier filing date under 35 U.S.C. 120, nevertheless, the requirement in section 1.98(a)(3) for a concise explanation of non-English language information would not be satisfied by a statement that a reference was cited in the prosecution of a parent application. The concise explanation must explain the relevance, as presently understood by the person designated in section 1.56(c) most knowledgeable about the content of the information. Notice of January 9, 1992, 1135 O.G. 13-25, at 20.*

This application relies, under 35 U.S.C. section 120, on the earlier filing date of prior application SN.: 09/438,603 , filed on November 12, 1999 (date).

(complete the following, if applicable)

[] This application also relies, under 35 U.S.C. section 120, on the earlier filing date of prior application SN.: 0 / , filed on _____ (date).

The following references were submitted to, and/or cited by, the Office in the prior application(s) and, therefore, are not required to be provided in this application:

AA-BT

Section 6. Copies of Listed Information Items Accompanying This Statement

NOTE: 37 C.F.R. section 1.98(a)(2) requires that any information disclosure statement filed under section 1.97 shall include: "A legible copy of: (1) Each U.S. and foreign patent; (ii) Each publication or that portion which caused it to be listed; and (iii) All other information or that portion which caused it to be listed, except that no copy of a U.S. patent application need be included . . ."

NOTE: The wording in section 1.98(a)(2)(iii) makes it clear that the requirement to submit a copy of each item of information listed in an information disclosure statement does not apply to the citation of a U.S. patent application. Notice of January 9, 1992, 1135 O.G. 13-25, at 14.

Legible copies of all items listed in Forms PTO/SB/08A and 08B (substitute for Form PTO-1449) accompany this information statement.

(complete the following, if applicable)

☒ Exception(s) to above:

☒ Items in prior application, from which an earlier filing date is claimed for this application, as identified in Section 4.

☐ Cumulative patents or publications identified in Section 5.

U.S. patent citations are not included pursuant to the United State Patent and Trademarks Office's September 21, 2004 waiver of the copy requirement in 37 CFR 1.98 for cited pending U.S. patent citations when the patent citations are available in the USPTO's IFW system.

Section 10. Identification of Person(s) Making This Information Disclosure Statement

The person making this certification is

(check each applicable item)

- (a) ☐ the inventor(s) who signs below

SIGNATURE OF INVENTOR

(type name of inventor who is signing)

- (b) ☐ an individual associated with the filing and prosecution of this application (37 C.F.R. section 1.56(c))

SIGNATURE OF INVENTOR

(type name of inventor who is signing)

- (c) ☒ the practitioner who signs below on the basis of the information:

(check each applicable item)

☐ supplied by the inventor(s).

☐ supplied by an individual associated with the filing and prosecution of this application. (37 C.F.R. section 1.56(c)).

☒ in the practitioner's file.

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02639/00A97 365206.1



SIGNATURE OF PRACTITIONER

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